ABSTRACT OF THE DISCLOSURE

Systems and methods are provided for automatically configuring cross-connects in an ATM-based switch between a plurality of user-side communications channels and a plurality of network-side communications channels provided from an ATM service provider. The switch comprises a plurality of user ports, an uplink interface, a backplane interface, and a switch concentration module (SCM). The SCM is a network management system for automatically configuring a plurality of cross-connects between the plurality of user-side communications channels and the plurality of network-side communications channels. The SCM incorporates a method involving (1) obtaining a default logical VPI/VCI address associated with the plurality of network-side communications channels, (2) defining a first plurality of unique logical VPI/VCI addresses based on a predefined set of rules for incrementing logical VPI/VCI addresses, each of the first plurality of unique logical VPI/VCI addresses associated with one of the plurality of user-side communications channels, (3) determining a second plurality of unique logical VPI/VCI addresses based on the default logical VPI/VCI address and the predefined set of rules, and (4) creating a plurality of cross-connects between the plurality of network-side communications channels and the plurality of user-side communications channels by linking the first and second unique logical VPI/VCI addresses.